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Chapter IX

HUMOR AND MENTAL HEALTH

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ABSTRACT

The idea that humor can be associated with mental well-being has been spreading in recent years; therefore, a discrete body of research has investigated the potential benefits of humor for mental health and psychological well-being. Some evidence has emerged that humor produces positive short-term emotional changes and may attenuate negative emotions as a result of cognitive distraction. Nevertheless, cross-sectional studies have found no single correlations between sense of humor and the ability to regulate negative emotions. Different humor styles have been found to mediate the relationship between positive personality qualities and well-being, although the mediator models used to explain this relationship are still far from producing conclusive results. Research findings make clear that humor is a multidimensional construct, consisting of components that can affect mental health and well-being either positively or negatively. Consequently, various humor styles may have different effects on social interactions as well as mental health. Therefore, in examining the potential role of humor in improving mental health processes and psychological well-being we should take into consideration various humor styles, contexts and circumstances.

INTRODUCTION

In contemporary Western culture, a sense of humor is widely viewed as a highly desirable personality characteristic. Individuals with a greater sense of humor are thought to cope better with stress, to get along well with others and enjoy better mental and even physical health [1]. The idea that humor is associated with mental well-being has spread in recent years. In this regard, we can recall a work of Carol Ryff [2], which was intended to verify whether the six criteria of psychological well-being she proposed were similar to those shown by ordinary people. This study found that the best indicators associated with positive functioning identified by middle-aged and older adults also included a sense of humor.

During the late 1990s, humor was included in the list of the core strengths of character or enduring positive human traits identified by Positive Psychology [3]. The Values in Action (VIA) Classification of Strengths identifies 24 components of good character that contribute to optimal human development and organizes them under six broad virtues. Virtues are the core characteristics valued by moral philosophers and religious thinkers: wisdom, courage, humanity, justice, temperance, and transcendence. The last one (i.e. transcendence) includes strengths that build connections to the larger

universe and provide meanings: appreciation of beauty and excellence, gratitude, hope, humor, and spirituality. Humor in the VIA is conceptualized as a unipolar and unidimensional strength, which scope is restricted to those forms that serve some moral good. However, humor is a multidimensional concept and the VIA classification does not cover all of the virtues-related humorous behaviors; hence, further research is required to investigate the role of virtue in humor [4]. Unfortunately, the strength of humor has not received much attention from Positive Psychology researchers, although it has much to offer for the promotion of well-being.

Components of humor have been seen as effects of psychological and physical states of a person. Psychological conditions that have been claimed to be related to humor in that way include depression, autism, borderline personality disorder, hysteria, schizophrenia, mood disturbance, psychological repression, aggression, and anxiety [5]. A recent review reported scientific evidence of the influence of depression on the ability to laugh, which suggests that reduction of laughter frequency is a symptom of depression and that its increase may be used as a marker of clinical improvement [6].

On the other hand, aspects of humor could also be determinants of physical and mental conditions. I tried to summarize the research on humor's effects on physical health in the previous chapter. The aim of this chapter is to review the relevant, recent research on the effects of humor on psychological conditions.

First to address this issue, I briefly describe the mechanisms that have been hypothesized to explain the influence of humor and laughter on mental health and well-being.

An important mechanism through which a sense of humor may be beneficial to mental health is by contributing to one's ability to regulate emotions, which is an essential aspect of mental health [7]. Sense of humor might produce "habitual amusement-related positive emotions or moods" [8]; in other words, it might directly affect psychological well-being by making people feel better emotionally. This conceptualization of sense of humor asserts that it should be positively related to measures of positive affect (including happiness) and negatively related to measures of negative affect (including depression).

An indirect contribution of sense of humor to mental health is to enhance the performance on tasks that demand directed attention by inclining a person toward positive affect. This indirect contribution was demonstrated experimentally in the late eighties by Isen and her colleagues [9]. The positive mood and flexible thinking induced by several methods, including exposure to humorous material, was found to contribute to the effective functioning in attention-demanding situations.

Another mechanism states that humor might indirectly benefit health and mental well-being through an interpersonal mechanism, by increasing one's level of social support. Individuals who use humor in an affiliative and non-hostile manner are able to reduce effectively interpersonal conflicts and tensions and enhance positive feelings in others. As a result, they may enjoy more numerous and satisfying social relationships [10]. In fact, it may be easier for individuals with a great sense of humor to establish and maintain friendships, to develop a rich network and thus, to get the mental and physical health benefits that derive from social support. This hypothesized mechanism focuses on interpersonal aspects of humor and the social competence with which individuals express humor in their relationships, rather than the frequency with which they engage in laughter. This model emphasizes the distinction between styles of humor that facilitate relationships and enhance social support, and other forms that are potentially maladaptive.

Finally, Can and colleagues [11] provided a model to understand the actual processes through which effective and ineffective styles of humor may be relevant to psychological well-being. The proposed model assumes that humor promotes well-being through positive personality qualities that serve as mediators in the relationship between humor styles and perceptions of stress. Using humor effectively, through higher levels of self-enhancing humor and lower levels of self-demeaning humor, can help to

maintain a more positive personal style, characterized by higher positive affectivity and positive qualities like optimism, happiness, and hope.

In conclusion, implications of humor for positive mental health were proposed to be related to the abilities to regulate negative emotions and enjoy positive emotions, to establish meaningful relationships with others, and possess a set of positive personality characteristics and resources.

A review published in 1999 [5] indicated that, in general, humor as a response (e.g. laughter) may contribute to a reduction of existing mental health problems, whereas a great sense of humor can beneficially influence mental health by moderating the perceived intensity of negative life events. A more recent review [10] described research investigating the potential benefits of humor in regulating negative emotions, coping with stressful events, and establishing meaningful social relationships. Crucial points emerge from this review. Experimental laboratory research confirmed a short-term beneficial effect of humor and laughter, but provided little evidence for longer-term psychological benefits. Correlational studies found weak or inconsistent evidence for mental benefits of a sense of humor. Research on humor styles found that positive and negative styles of humor are differentially correlated with the individuals' experiences of close relationships, emotional well-being and healthy functioning.

DOES HUMOR PREDICT POSITIVE AFFECT?

Positive affect can be defined as a state of pleasurable engagement with the environment eliciting feelings, such as happiness, joy, excitement, enthusiasm, and contentment [12]. Positive affect is part of the concept of subjective well-being that includes life satisfaction, absence of negative emotions, optimism, and positive emotions [13]. It is also part of the concept of psychological well-being that encompasses trait-like dispositions, such as optimism and cheerfulness [14]. The literature on the relationship between affectivity and health is consistent. The strongest link with health was found with trait affective styles, which reflects a person's typical emotional experience, rather than state affect. The presence of positive affect, as a dispositional state was found to be associated with positive health experiences, such as a stronger immune response, fewer illness symptoms and pain reported, a better health in general and longevity [13,15–17]. Positive affect was also associated with protective psychosocial and behavioral factors, such as strong social connectedness, perceived social support, preference for adaptive coping responses, and performing health behaviors [13].

To the extent that humor produces a positive emotional state [18], we can safely say that it has a direct effect on psychological well-being of individuals.

Investigations of humor and emotions have demonstrated, in a number of laboratory experiments, the effects of humor on mood. In particular, smiling and laughter are expressions of the positive emotion of mirth that is induced by the perception of humor; the act of smiling and laughing by itself, even when done artificially, may induce feelings of amusement and mirth, at least temporarily [19–22]. These experiments provided fairly consistent evidence of short-term effects of humor on positive mood and feelings of well-being in the laboratory.

A more recent cross-sectional study [23] confirmed that a good sense of humor predicted well-being of the people who use it. Results indicated that only humor appreciation was an effective predictor of emotional well-being and personal development, whereas another dimension evaluated in this study (i.e., contact with nature) was a predictor of psychological functioning.

However, in the literature there are also studies that did not confirm the hypothesis that humor has positive effects on mental well-being. Among them, we recall the study of Kuiper and Martin [24] indicating that individuals with a greater tendency to laugh at everyday life did not show higher levels of positive affect.

In conclusion, findings for the role of laughter and sense of humor as predictors of psychological well-being are to date consistent, although less than those on the relationship between stable differences in affectivity and health.

CAN HUMOR ATTENUATE NEGATIVE EMOTIONS?

Chronic negative affect has been shown to be related to poorer health experiences [25], and recent levels of negative affect have proven to be a reliable predictor of physical health [26]. For example, negative emotions can intensify a variety of health threats and contribute to prolonged infection and delayed wound healing. Accordingly, Kiecolt-Glaser and colleagues [27] argued that distress-related immune deregulation may be one core mechanism behind the health risks associated with negative emotions.

Besides increasing positive moods, there is experimental evidence that humor can reduce negative moods, thus bringing benefits to health. Laboratory experiments found that exposure to a humorous video led to a significant reduction in reported levels of anxiety [28,29]. There is also some evidence that humor can reduce the effects of experimentally induced depressed moods [30].

A recent study of medical education explored the effectiveness of humor when used as intervention in a large group teaching over negative emotions amongst students [31]. Humor was found to be truly effective in relieving students on their negative emotions of depression, anxiety and stress.

Taken together, these findings suggest that humor produces positive short-term emotional changes. Cross-sectional studies have found the presence of at least moderate negative correlations between some humorous aspects and measures of neuroticism, anxiety, and depression [32]. Nevertheless, other experimental studies have not confirmed an inverse relationship between humor and levels of anxiety and depression [10]. Furthermore, some other cross-sectional studies found no single correlations between sense of humor and anxiety [33].

A recent study aimed to demonstrate that the cognitive demands involved in humor processing can attenuate negative emotions [34]. The authors hypothesized that humorous stimuli attenuate negative emotion to a greater extent than do equally positive non-humorous stimuli. Participants reported less negative feelings in both mild and strongly negative trials with humorous, positive stimuli than with non-humorous positive stimuli, whereas humor did not differentially affect emotions in the neutral trials. Cognitive demanding stimuli were more effective in regulating negative emotions than those that were less demanding. These findings supported the idea that humor may attenuate negative emotions as a result of cognitive distraction.

HUMOR STYLES AND PSYCHOLOGICAL WELLBEING

Martin and colleagues [35] have recently proposed a new approach to the study of individual differences in the use of humor that takes into account the multidimensionality of this construct. They identified four different styles of humor, or ways in which people use humor in their daily lives: two potentially detrimental styles (aggressive and self-defeating humor) and two potentially beneficial styles (affiliative and self-enhancing humor). Benevolent humor is used to be accepted socially (affiliative) or to deal with stressful situations (self-reinforcement), whereas non-benevolent humor is used to tease others (aggressive) or self-mock (worthlessness). Different humor styles were found to be associated with health and psychological well-being in different ways [35]. The self-reinforcing and the affiliative styles correlated negatively with anxiety and depression and positively with self-esteem and a global score of psychological well-being. On the other hand, higher scores on the worthlessness humor style were associated with increased anxiety, depression, psychiatric symptoms, and lower self-

esteem and well-being. The aggressive style was related to hostility and aggression. These results were confirmed by other studies. In one of these [36], the benevolent humor styles were associated with higher self-esteem, lower levels of depression and anxiety, and multiple self-competencies associated with better coping. The non-benevolent humor styles were instead associated with a lower self-esteem, higher levels of anxiety and depression, and lower perceptions of empowerment and self-competencies. In another study [37], self-enhancing humor was negatively related, and self-defeating was positively related to both evaluations of past stressors and anticipated future stressors. The two self-directed styles of humor were reliably related to well-being outcomes, although they were not shown to be both adaptive: self-defeating humor style was associated with poorer adjustment and lower well-being than self-enhancing humor style [37,38].

In a cross-cultural study, Kazarian and Martin [39] investigated the differences in the use of humor styles, by gender and culture, among Lebanese, Canadian and Belgian students. Lebanese students showed a lower use of adaptive humor, compared to the Canadians and less use of affiliative and aggressive humor styles than the Belgians. Canadian and Belgian males used aggressive humor more than the female of their own country. In this study, the association between humor styles and mental health was only partly supported by empirical evidence. These results confirm the hypothesis that only some types of humor are associated with mental well-being, while others may even have a harmful effect [35].

Taken together, these studies support the idea that sense of humor is a multidimensional construct, consisting of components that can affect mental health and well-being either positively or negatively.

HUMOR AND OTHER PERSONAL RESOURCES

People who are high on positive personality qualities, such as optimism, autonomy, and personal growth tend to report a higher level of positive functioning, including experiencing higher levels of positive affect, greater life satisfaction, increased level of self-esteem, in addition, to the absence of negative affect. These positive personality qualities are also associated with more positive approaches to coping with stressful situations and to a better overall health. Research supports the health benefits of greater optimism [40], higher levels of hope as a stable trait [41], and stable differences in happiness [42]. Effective use of humor may be one way that people with more positive personality qualities use to maintain their positive outlooks. Indirect support to this idea came from research indicating that a good sense of humor was associated with higher levels of cheerfulness [35]. Another positive quality that was associated with humor was hopefulness. In fact, a study found that participants who watched a comedy video, as compared to those who viewed a non-humorous video, reported a greater increase in feelings of hopefulness [43]. Some research has also shown that people with a greater sense of humor have a better vision of themselves. For example, employees engaged in a guided program of non-humor dependent laughter demonstrated a significant increase in several different aspects of self-efficacy in the workplace, including self-regulation, optimism, positive emotions, and social identification, and they maintained these gains at follow-up [44].

Several studies on humor styles explored the relation between adaptive and maladaptive humor and positive personality characteristics. Looking at different humor styles affiliative and self-enhancing humor were found to be positively correlated with indicators of positive mental health, such as psychological well-being, self-esteem, and optimism [35,45], and negatively correlated with depression [46,47], anxiety [48], loneliness [49], and global distress [38]. On the other hand, aggressive and self-defeating humor showed negative associations with indicators of positive mental health, and positive correlations with various negative emotions and impaired psychosocial functioning (for a review see Martin [10]). In a recent study [37], initial evidence was found to support a mediator model in which

the role of humor styles in explaining perceptions of stress was mediated through a composite of positive personality styles, including optimism, hope, and happiness (i.e., humor styles → positive personality → perception of stress). A different mediator model was tested in another recent study [50] involving a sample of Serbian young adults. A mediating role of humor styles in the relationship between personality traits and psychological well-being was partially shown. Self-enhancing humor style mediated the relationship between extraversion, neuroticism and satisfaction with life, whereas affiliative humor style partially mediated the relationship between neuroticism and affective well-being (i.e., personality → humor styles → affective well-being).

A recent study [51] investigated humor styles in the context of explicit (i.e., conscious, deliberate) and implicit (i.e., automatic, habitual) self-esteem. Results showed that participants with a self-defeating humor style had damaged self-esteem, defined as a combination of low explicit and high implicit self-esteem. A possible mechanism behind these results could be that the frequent use of self-defeating humor might result in a downward spiral of social rejection, resulting in low explicit social self-esteem. Nevertheless, the correlational design of this study did not allow making causal inferences. Other recent studies found that humor styles mediated the relationships between positive and negative self-evaluation standards and psychological well-being. For example, Dozois and colleagues [52] found that self-enhancing and self-defeating humor styles mediated the relationship between early maladaptive schemas and depressed mood. Early maladaptive schemas influenced information processing, emotional reactions to life situations, self-control, and interpersonal relationships. Furthermore, the relationship between the primary evaluative component of the self-schema and psychological well-being (rated in terms of social self-esteem and lower depression) was mediated by a more affiliative humor, whereas a more self-defeating humor, induced by negative self-evaluative standards, led to a decrease in social self-esteem [53].

Taken together, these findings show that a good sense of humor or humor styles might be reliable predictors of a better mental health, even if their predictive power is less than that of other positive personality qualities. Nevertheless, the mechanisms linking these variables and the mediator models used to explain them are still far from exhaustive and conclusive.

DOES HUMOR IMPROVE INTERPERSONAL PROCESSES?

Research has only recently been directed to investigate the potential effect of humor on interpersonal relationships, since humor was supposed to improve interpersonal processes and facilitate social relationships [1].

Studies of dating and married couples have consistently shown that greater satisfaction with the relationship is associated with a good sense of humor of the partner and the amount of humor and laughter shared between the spouses [10]. A more recent study [54] found that partners tended to resemble each other with regard to the sense of humor. However, couple similarity on sense of humor was unrelated to the relationship quality, in contrast with what was expected. On the contrary, another recent study found little similarity within couples on humor styles, but it found that the best predictors of satisfaction were perceptions of a partner's humor style [55].

In a qualitative study of dating relationships, Amy Bippus [56] drew a distinction between humor that serves a bonding function and more negative types, such as cruel, inappropriate, and overbearing humor that may be injurious to the relationship. Humor styles, together with conflict styles, were found to serve as a mediator between the attachment style and relationship satisfaction in the context of romantic relationships [57]. Specifically, humor styles reflecting attitudes about others were related to the avoidance attachment style, while those reflecting attitudes about the self were related to the anxiety attachment dimension.

Another study on humor in close relationships underlined the necessity to evaluate separately positive, negative, and instrumental uses of humor by each partner, since they were differentially associated with marriage satisfaction [58].

A few recent studies have examined associations between potentially healthy and unhealthy humor styles and variables having to do with close relationships. The distinction between positive and negative uses of humor appeared to be critical, since affiliative and aggressive styles had opposed relationships with the couples' satisfaction [59]. Moreover, a recent study showed that the two other-directed humor styles explained much more variance of the relationship satisfaction than the self-directed styles. Thus, they were potentially crucial to consider as personal qualities, but their relevance likely was greater when the uses of humor were directed toward interpersonal, rather than intrapersonal, goals [55].

Overall, correlational studies examining associations between trait humor and several variables relevant to personal relationships found a positive correlation of humor with intimacy, empathy, social assertiveness, and interpersonal trust [10].

Studies on general social relationships confirmed the role of humor styles in facilitating social interactions. A recent study [60] found that labeling social comments as humorous had positive effects on recipients' reactions to these comments. Furthermore, when the acquaintance was described as feeling depressed, affiliative comments made in a humorous fashion led to more positive reactions than did non-humorous affiliative comments. A correlational study on the relation between shyness and humor styles found a significant negative correlation between shyness and affiliative humor and a positive correlation between shyness and self-defeating humor, indicating that shy people, who have difficulties in social situations, tend to use less adaptive humor styles [61]. Finally, coping humor was found to be positively associated with pleasure and self-confidence people attributed to their interactions and with time they spent with others although the strength of this relation was moderated by depression [62].

Studies on peer-relations in childhood and adolescence also seem to provide initial empirical support to the relationship between humor styles and peer acceptance. One of these studies investigated how different humor styles may bear on peer relationships and bullying during middle childhood. Results indicated that adaptive humor styles helped the child's status within the peer group, whereas maladaptive humor styles hindered it [63]. Another study showed that positive humor styles and trait cheerfulness were positively correlated with various domains of social competence in undergraduate students, whereas negative humor styles and trait lousy mood were negatively correlated with social competence [64].

However, there is also some evidence that humor may play a negative role in interpersonal relationship. For example, one study on close relationships found that for men higher coping humor was associated with lower marital satisfaction and greater negative affect and verbal negativity during marital discussions [65]. Another study indicated that greater humor expression by husbands during a problem discussion predicted a greater likelihood of separation in newly married couples, in the context of serious life stress [66]. A qualitative study on the role of humor among Finnish school boys found that violent humor was used as a resource and strategy for boys to construct masculinity and gain social status [67]. The effect of such a negative humor strategy might have serious consequences on students' lives.

This emerging body of research makes clear that humor styles, as expressions of a sense of humor, cannot be regarded as uniformly positive in relation with social interaction. Findings demonstrate the usefulness of treating humor as a multidimensional variable to understand better the roles it might play across relationships. Therefore, in examining the potential role of humor in improving interpersonal processes we should take into consideration various humor styles, gender differences, and specific

interpersonal contexts and circumstances.

THE USE OF HUMOR IN MENTAL ILLNESS

Probably due to what seems to be the potential benefit of humor and laughter, in the last 30 years we have seen an increase in the use of humor with individuals with mental illness.

A recent review [6] reported some evidence supporting the hypothesis of the therapeutic action of laughter on depression. Empirical findings seem to demonstrate that laughter may improve mood directly, moderate negative consequences of stressful events on psychological well-being and mediate the normalization of the hypothalamic, pituitary, adrenocortical system dysfunctions involved in the depression pathogenesis. Through these mechanisms, laughter can counteract depressive symptoms. Furthermore, the favorable effects of laughter on social relationships and physical health may have a role in influencing the ability of depressed patients to face the disease.

Results of empirical studies on the therapeutic use of humor in depressed patients showed that humor proved to be helpful. This was the case with the use of humor in the group therapy of geriatric patients with depression and Alzheimer's [68]. A recent pilot study found significant short-term mood improvement after training addressing humor skills in patients with major depression, although there was no significant long-term improvement of depressive symptoms [69]. In a study of hospitalized adolescent psychiatric patients, higher coping humor was associated with lower levels of depression and higher self-esteem, although it was unrelated to feelings of hopelessness [70]. A study of hospitalized adult psychiatric patients found that higher sense of humor tended to be associated with lower depression and higher self-esteem and positive moods among clinically depressed patients [71].

Overall, these findings give some support to a general protective role of humor in mood disturbance.

Studies on the effect of humor styles on mental health specify that only the benevolent styles of humor have a protective role. Recently, Düşünceli [72] investigated the effect of humor styles on psychopathology among university students in Turkey. Results of a structural equation model indicated that the self-enhancing humor style decreased symptoms of a variety of psychological disturbances, such as somatization, obsessive compulsive disorder, anxiety and phobic anxiety, interpersonal sensitivity, depression, anger-hostility, and psychotic disorder. The affiliative humor style also decreased the symptoms of mood disorders. The self-defeating humor style, in contrast, increased the symptoms of mood and anxiety disorders. These findings support the result of previous studies [35] showing that self-enhancing humor style predicted anxiety disorders negatively, whereas self-defeating humor style predicted anxiety disorders positively.

Despite the presence of studies that have not confirmed an inverse relationship between humor and levels of anxiety and depression [73], other studies supported this view. For example, in a study on personality-vulnerability dimensions and positive and negative styles of humor, undergraduates with higher levels of depressed mood reported less use of self-reinforcing and affiliative humor, and an increased use of self-deprecating humor [74]. This study took into account two personality traits, autonomy and social dependency (i.e., tendency to base their self-esteem on the opinions of others). It suggested that self-reinforcing style, being inversely correlated with social dependency, could protect people from depression in response to situations of social rejection.

Olson and colleagues [75] found that among individuals with high rumination, those with higher adaptive humor styles (especially self-reinforcing humor style) had significantly lower levels of dysphoria than individuals with high rumination and lower adaptive humor. Rumination is a negative, anxious repetitive thought that is highly correlated with depression. Based on these results, humor was hypothesized to act as a distracter from ruminative thoughts, also to mitigate the negative effects of rumination, thus indirectly helping prevent depressive episodes [76]. However, an experimental study

did not confirm the role of humor in either effectively distracting from rumination or reducing the amount of rumination [76].

In a community sample of Israeli adults, affiliative and self-enhancing humor styles on one hand, and aggressive and self-defeating humor styles on the other mediated the relationship between self-criticism, a trait that confers vulnerability to depression, and neediness, which is related to levels of depressive symptoms [77].

Pietrantonio and Dionigi [78] found that Italian people who had experienced a number of events perceived as negative and used more aggressive and worthless styles of humor were more prone to develop anxiety and depression than those using more adaptive humor styles. Hugelshofer and colleagues [79] found that higher levels of affiliative and self-enhancing humor and lower levels of self-defeating humor were each associated with fewer depressive symptoms in a large sample of students. Additionally, higher levels of affiliative humor provided a buffer against the deleterious effects of a negative attributional style, even though this relation varied between women and men. Chen and Martin [38] reported a similar pattern of relationships when looking at mental health based on self-reported symptoms.

Although a greater sense of humor seems to be related to lower severity of disturbance in clinically depressed individuals and to fewer depressive symptoms in healthy people, this does not seem to be the case among patients with schizophrenia. In one study, hospitalized patients with chronic schizophrenia were shown 70 comedy movies over a three-month period, while those in a control group were shown an equal number of non-humorous dramatic movies [80]. After these interventions, patients who had watched the comedy movies were rated by the staff as having significantly lower levels of verbal hostility, anxiety/depression and tension than those in the control group. The patients themselves reported greater perceived social support from the staff. The authors of the study acknowledged that these findings may have had more to do with the effects of the movies on the perceptions of the hospital staff than on the actual functioning of the patients. Another study of humor in hospitalized schizophrenic patients similarly found no relation between coping humor and self-report and psychiatrist-rated hostility, aggression, and anger [81]. Overall, the rather limited research on this topic provides little evidence that schizophrenic patients with high humor have a better psychological adjustment than are those with less of a sense of humor.

In a recent review of the literature, Marc Gelkopf [82] stated that empirical studies on the use of humor and laughter in people with serious mental illness have not produced consistent results, because of serious methodological shortcomings. In particular, most studies lack control groups, use non-standardized assessment tools, involve extremely small samples, and do not administer an adequate control stimulus for distinguishing between the effects of humor and those of positive emotions in general. Therefore, this field needs further investigation.

CONCLUSION

A discrete body of research has investigated the potential benefits of humor for mental health and psychological well-being. Findings for the role of laughter and sense of humor as predictors of psychological well-being are consistent, although less than those on the relationship between stable differences in affectivity and health. Some evidence has emerged that humor produces positive short-term emotional changes and may attenuate negative emotions as a result of cognitive distraction. Nevertheless, cross-sectional studies have found no clear correlations between sense of humor and the ability to regulate negative emotions. A good sense of humor or humor styles might mediate the relationship between positive personality qualities and well-being, although the mediator models used to explain this relationship are still far from exhaustive and conclusive. Research findings make clear

that humor is a multidimensional construct, consisting of components that can affect mental health and well-being either positively or negatively. Consequently, humor styles cannot be regarded as uniformly positive in relation with social interaction or with severity of disturbance in clinically depressed individuals and other mentally ill patients. Therefore, in examining the potential role of humor in improving mental health processes and psychological well-being we should take into consideration various humor styles, contexts and circumstances.

An area of research that has been understudied is related to the connection between humor and quality of life (QoL) outcomes in chronic disease. The few studies in the literature show conflicting results. In patients with head and neck squamous cell carcinoma, sense of humor, but not depression or anxiety levels, at diagnosis predicted QoL and depression level at 6 years follow-up [83]. In patients with systemic sclerosis, a progressive rheumatic disease that can be fatal in severe cases, humor coping did not significantly predict any of the disease-related outcomes, either cross-sectionally or longitudinally [84]. More recently, a sense of humor among patients with chronic obstructive pulmonary disease has proven to be associated with positive psychological functioning and enhanced quality of life, but laughing aloud was shown to cause acute deterioration in pulmonary function secondary to worsen hyperinflation [85]. Overall, these results indicate that humor may not be directly beneficial to QoL in chronic disease.

We can speculate that conflicting results in research on humor and mental health may be related to difficulties in conceptualization and measurement of the sense of humor. The various pieces of this process have been identified, as much progress has been made in defining the key aspects of humor; however, what is still missing is the full view of the complex connection between them.

REFERENCES

- [1] Lefcourt, H. M. (2001). *Humor: The psychology of living buoyantly*. New York: Kluwer Academic.
- [2] Ryff, C. D. (1989). Happiness is everything, or is it?: Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.
- [3] Peterson, C., & Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification*. Washington: American Psychological Association.
- [4] Müller, L., & Ruch, W. (2011). Humor and strengths of character. *The Journal of Positive Psychology*, 6, 368-376.
- [5] Galloway, G., & Cropley, A. (1999). Benefits of humor for mental health: Empirical findings and directions for further research. *Humor: International Journal for Humor Research*, 72, 301-314.
- [6] Fonzi, L., Matteucci, G., Bersani, G. (2010). Laughter and depression: Hypothesis of pathogenic and therapeutic correlation. *Rivista di Psichiatria*, 45, 1-6.
- [7] Gross, J. J., Muñoz, R. F. (1995). Emotion regulation and Mental Health Clinical Psychology: Science and practice, 2, 151-164.
- [8] Martin, R. A. (2001). Humor, laughter, and physical health: Methodological issues and research findings. *Psychological Bulletin*, 127, 504-519.
- [9] Isen, A. M., Daubman, K. A., Nowicki, G. P. (1987). Positive affect facilitates creative problem solving. *Journal of Personality and Social Psychology*, 52, 1122-1131.
- [10] Martin, R. A. (2007). *The psychology of humor: An integrative approach*. New York: Academic Press.
- [11] Cann, A., Stilwell, K., & Taku, K. (2010). Humor styles, positive personality and health. *Europe's Journal of Psychology*, 3, 213-235.
- [12] Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS Scale. *Journal of Personality and Social Psychology*, 54,

1063–1070.

- [13] Diener, E., Chan, M. Y. (2011). Happy people live longer: Subjective well-being contributes to health and longevity. *Applied Psychology. Health And Well-Being*, 3, 1–43.
- [14] Ryan, R. M., Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166.
- [15] Cohen, S., & Pressman, S. D. (2006). Positive affect and health. *Current Directions in Psychological Science*, 15, 122-125.
- [16] Segerstrom, S. C., & Sephton, S. E. (2010). Optimistic expectancies and cell-mediated immunity: The role of positive affect. *Psychological Science*, 21, 448–455.
- [17] Berges, I., Seale, G., & Ostir, G. V. (2011). Positive affect and pain ratings in persons with stroke. *Rehabilitation Psychology*, 56, 52-57.
- [18] Celso, B. G., Ebener, D. J., & Brkhead, E. J. (2003). Humor, coping, health status, and life satisfaction among older adults residing in assisted living facilities. *Aging & Mental Health*, 7, 438-445.
- [19] Ruch, W., Köhler, G., & van Thriel, C. (1997). To be in good or bad humour: Construction of the state form of the State-Trait-Cheerfulness-inventory—STCI. *Personality and Individual Differences*, 22, 477-491.
- [20] Ruch, W. (1997) State and trait cheerfulness and the induction of exhilaration: A FACS study. *European Psychologist*, 2, 328-341.
- [21] Foley, E., Matheis, R., & Schaefer, C. (2002). Effect of forced laughter on mood. *Psychological reports*, 90, 184.
- [22] Neuhoff, C. C., & Schaefer, C. (2002). Effects of laughing, smiling, and howling on mood. *Psychological Reports*, 91, 1079-80.
- [23] Herzog, T. R., & Strevey S: J. (2008). Contact with nature, sense of humor, and psychological well-being. *Environment and Behavior*, 40, 747-776.
- [24] Kuiper, N. A., & Martin, R. A (1998b). Laughter and stress in daily life: Relation to positive and negative affect. *Motivation and Emotion*, 22, 133-153.
- [25] Friedman, H. S., & Booth-Kewley, S. (1987). The “disease-prone personality”: A meta-analytic view of the construct. *American Psychologist*, 42, 539-555.
- [26] Kuiper, N. A., & Harris, A. L. (2009). Humor styles and negative affect as predictors of different components of physical health. *Europe’s Journal of Psychology*, February. Retrieved from <http://www.ejop.org/archives/2009/02/humor-styles-and-negative-affect-as-predictors-of-different-components-of-physical-health.html>
- [27] Kiecolt-Glaser, J. K., McGuire, L., Robles, T. F., & Glaser, R. (2002). Emotions, morbidity, and mortality: New perspectives from psychoneuroimmunology. *Annual Review of Psychology*, 53, 83-107.
- [28] Szabo, A. (2003). The acute effects of humor and exercise on mood and anxiety. *Journal of Leisure Research*, 35, 152-162.
- [29] Szabo, A., Ainsworth, S. E., & Danks, P. K (2005). Experimental comparison of the psychological benefits of aerobic exercise, humor, and music. *Humor: International Journal of Humor Research*, 18, 235–246.
- [30] Danzer, A., Dale, J. A., & Klions, H. L. (1990). Effect of exposure to humorous stimuli on induced depression. *Psychological Reports*, 66, 1027-1036.
- [31] Narula, R., Chaudhary, V., Narula, K., & Narayan, R. (2011). Depression, anxiety and stress education in Medical Education: Humor as an intervention. *Online Journal of Health and Allied Sciences*, 10, 7. Retrieved online June 2011, <http://www.ojhas.org/issue37/2011-1-7.htm>

- [32] Kuiper, N.A., & Borowicz-Sibenik, M. (2005). A good sense of humor doesn't always help: Agency and communion as moderators of psychological well-being. *Personality and Individual Differences*, 38, 365-377.
- [33] Nezu, A. M., Nezu, C. M., & Blissett, S. E. (1988). Sense of humor as a moderator of the relationship between stressful events and psychological distress: A prospective analysis. *Journal of Personality and Social Psychology*, 54, 520-525.
- [34] Strick, M., Holland, R. W., van Baaren, R. B., & van Knippenberg, A. (2009). Finding comfort in a joke: Consolatory effects of humor through cognitive distraction. *Emotion*, 9, 574-578.
- [35] Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & Weir, K. (2003) Individual differences in the uses of humor and their relation to psychological well-being: Development of the Humor Styles Questionnaire. *Journal of Research in Personality*, 37, 48-75.
- [36] Kuiper, N. A., Grimshaw, M., Leite, C., & Kirsh, G. A. (2004). Humor is not always the best medicine: Specific components of sense of humor and psychological well-being. *Humor: International Journal of Humor Research*, 17, 135-168.
- [37] Cann, A., & Etzel, K. C. (2008). Remembering and anticipating stressors: Positive personality mediates the relationship with sense of humor. *Humor: International Journal of Humor Research*, 21, 157-178.
- [38] Chen, G., & Martin, R. A. (2007). A comparison of humor styles, coping humor, and mental health between Chinese and Canadian university students. *Humor: International Journal of Humor Research*, 20, 215-234.
- [39] Kazarian S. S., & Martin, R. A. (2004). Humour styles, personality, and well-being among Lebanese university students. *European Journal of Personality*, 18, 209-219.
- [40] Carver, C. S., Scheier, M. F., & Miller, C. J. (2009). Optimism. In S. J. Lopez, & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (pp. 303-312). New York: Oxford University Press.
- [41] Richman, L. S., Kubzansky, L., Maselko, J., Kawachi, I., Choo, P., & Bauer, M. (2005). Positive emotion and health: Going beyond the negative. *Health Psychology*, 24, 422-429.
- [42] Siahpush, M., Spittal, M., & Singh, G. K. (2008). Happiness and life satisfaction prospectively predict self-rated health, physical health, and the presence of limiting, long-term health conditions. *American Journal of Health Promotion*, 23, 18-26.
- [43] Vilaythong, A. P., Arnau, R. C., Rosen, D. H., Mascaro, N. (2003). Humor and hope: Can humor increase hope? *Humor: International Journal of Humor Research*, 16, 79-89.
- [44] Beckman, H., Regier, N., & Young, J. (2007). Effect of workplace Laughter groups on personal efficacy beliefs. *Journal of Primary Prevention*, 28, 167-182.
- [45] Kazarian, S. S., & Martin, R. A. (2006). Humor styles, culture-related personality, well-being, and family adjustment among Armenians in Lebanon. *Humor: International Journal of Humor Research*, 19, 405-423.
- [46] Erickson, S. J., Feldstein, S. W. (2007). Adolescent humor and its relationship to coping, defense strategies, psychological distress, and well-being. *Child Psychiatry & Human Development*, 37, 255-271.
- [47] Hugelshofer, D. S., Kwon, P., Reff, R. C., & Olson, M. L (2006). Humour's role in the relation between attributional style and dysphoria. *European Journal of Personality*, 20, 325-336.
- [48] Bilge, F., & Saltuk, S. (2007). Humor styles, subjective well-being, trait anger and anxiety among university students in Turkey. *World Applied Sciences Journal*, 2, 464-469.
- [49] Fitts, S. D., Sebbly, R. A., & Zlokovich, M. S. (2009). Humor styles as mediators of the shyness-loneliness relationship. *North American Journal of Psychology*, 11, 257-272.

- [50] Jovanovic, V. (2011). Do humor styles matter in the relationship between personality and subjective well-being? *Scandinavian Journal of Psychology* 52, 502–507.
- [51] Stieger, S., Formann, A. K., & Burger, C. (2011). Humor styles and their relationship to explicit and implicit self-esteem. *Personality and Individual Differences*, 50, 747–750.
- [52] Dozois, D. J., Martin, R. A., & Bieling, P. J. (2008). Early maladaptive schemas and adaptive/maladaptive styles of humor. *Cognitive Therapy and Research*, 33, 585-596.
- [53] Kuiper, N. A., & McHale, N. (2009). Humor styles as mediators between self-evaluative standards and psychological well-being. *The Journal of Psychology*, 143, 359–376.
- [54] Barelds, D. P., & Barelds-Dijkstra, P. (2010). Humor in intimate relationships: Ties among sense of humor, similarity in humor and relationship quality. *Humor: International Journal of Humor Research*, 23, 447–465.
- [55] Cann, A., Davis, H. B., & Zapata C. L. (2011). Humor styles and relationship satisfaction in dating couples: Perceived versus self-reported humor styles as predictors of satisfaction *Humor: International Journal of Humor Research*, 24, 1–20.
- [56] Bippus, A. M. (2000). Making sense of humor in young romantic relationships: Understanding partners' perceptions. *Humor: International Journal of Humor Research*, 13, 395–418.
- [57] Cann, A., Norman M. A., Welbourne, J. L., & Calhoun L. G. (2008). Attachment styles, conflict styles and humour styles: Interrelationships and associations with relationship satisfaction. *European Journal of Personality*, 22, 131–146.
- [58] De Koning, E., & Weiss, R. L. (2002). The Relational Humor Inventory: Functions of humor in close relationships. *American Journal of Family Therapy*, 30, 1-18.
- [59] Cann, A., Zapata, C. L., & Davis, H. B. (2009). Positive and negative styles of humor in communication: Evidence for the importance of considering both styles. *Communication Quarterly*, 57, 452-468.
- [60] Ibarra-Rovillard, M. S., & Kuiper, N. A. (2011). The effects of humor and depression labels on reactions to social comments. *Scandinavian Journal of Psychology* 52, 448–456.
- [61] Hampes, W. P. (2006) Humor and shyness: The relation between humor styles and shyness *Humor: International Journal of Humor Research*, 19, 179–187.
- [62] Nezlek, J. B., & Derks, P. (2001). Use of humor as a coping mechanism, psychological adjustment, and social interaction. *Humor: International Journal of Humor Research*, 14, 395–413.
- [63] Klein, D. N., & Kuiper, N. A (2006). Humor styles, peer relationships, and bullying in middle childhood. *Humor: International Journal of Humor Research*, 19, 383–404.
- [64] Yip J. A., & Martin, R. A. (2006). Sense of humor, emotional intelligence, and social competence. *Journal of Research in Personality*, 40, 1202–1208.
- [65] Lefcourt, H. M., & Martin, R. A. (1986). *Humor and life stress: Antidote to adversity*. New York: Springer.
- [66] Cohan, C. L, Bradbury, T. N. (1997). Negative life events, marital interaction, and the longitudinal course of newlywed marriage. *Journal of Personality and Social Psychology*, 73, 114-128.
- [67] Huuki, T., Manninen, S., & Sunnari, V. (2010). Humour as a resource and strategy for boys to gain status in the field of informal school. *Gender and Education*, 22, 369-383.
- [68] Walter, M., Hänni, B., Haug, M., Amrhein, I., Krebs-Roubicek, E., Müller-Spahn, F., & Savaskan, E. (2007). Humour therapy in patients with late-life depression or Alzheimer's disease: A pilot study. *International Journal of Geriatric Psychiatry*, 22, 77–83.
- [69] Falkenberg, I, Buchkremer, G., Bartels, M., & Wild, B. (2011). Implementation of a manual-based training of humor abilities in patients with depression: A pilot study. *Psychiatry Research*, 186,

454–457.

- [70] Freiheit, S. R., Overholser, J. C., & Lehnert, K. L. (1998). The association between humor and depression in adolescent psychiatric inpatients and high school students. *Journal of Adolescent Research*, 13, 32-48.
- [71] Kuiper, N. A., & Martin, R.A (1998a). Is sense of humor a positive personality characteristic? In W. Ruch (Ed.), *The sense of humor: Explorations of a personality characteristic* (pp. 159-178). Berlin: Walter de Gruyter.
- [72] Düşünceli, B. (2011). The effect of humor styles on psychopathology: examination with structural equation mode. *International Journal of Academic Research*, 3, 224-231.
- [73] Porterfield, A. L. (1987). Does sense of humor moderate the impact of life stress on psychological and physical well-being? *Journal of Research in Personality*, 21, 306-317.
- [74] Frewen, P. A., Brinker, J., Martin, R. A., & Dozios, D. J. (2008). Humor styles and personality-vulnerability to depression. *Humor: International Journal of Humor Research*, 21, 179-195.
- [75] Olson, M. L., Hugelshofer, D. S., Kwon, P., & Reff, R. C. (2005). Rumination and dysphoria: The buffering role of adaptive forms of humor. *Personality and Individual Differences*, 39, 1419-1428.
- [76] Ferrin, T., King, B., Morelock, N., Olson, J., & O'Nei, R. (2008). Rumination: A laughing matter? The effects of humor on depressive moods. *Intuition*, 4, 12-18.
- [77] Besser, A., Luyten, P., Blatt, S. J. (2011). Do humor styles mediate or moderate the relationship between self-criticism and neediness and depressive symptoms? *Journal of Nervous and Mental Disease*, 199, 757-764.
- [78] Pietrantoni, L., Dionigi, A., (2006). Quando ridere fa male: La relazione tra eventi di vita, stili umoristici e disagio psicologico. *Psicoterapia Cognitiva e Comportamentale*, 12, 301–316.
- [79] Hugelshofer, D. S., Kwon, P., Reff, R. C., & Olson, M. L. (2006). Humour's role in the relation between attributional style and dysphoria. *European Journal of Psychology*, 20, 325-336.
- [80] Gelkopf, M., Kreitler, S., & Sigal, M. (1993). Laughter in a psychiatric ward: Somatic, emotional, social, and clinical influences on schizophrenic patients. *Journal of Nervous and Mental Disease*, 181, 283-289.
- [81] Gelkopf, M., & Sigal, M. (1995). It is not enough to have them laugh: Hostility, anger, and humor-coping in schizophrenic patients. *Humor: International Journal of Humor Research*, 8, 273–284.
- [82] Gelkopf, M. (2011). The use of humor in serious mental illness: A review. *Evidence-Based Complementary and Alternative Medicine*, 1-8.
- [83] Aarstad, H. J., Aarstad, A. K., Heimdal, J. H., Olofsson, J. (2005). Mood, anxiety and sense of humor in head and neck cancer patients in relation to disease stage, prognosis and quality of life. *Acta Oto-Laryngologica*, 125, 557-565.
- [84] Merz, E. L., Malcarne, V. L., Hansdottir, I., Furst, D. E., Clements, P. J., & Weisman, M. H. A longitudinal analysis of humor coping and quality of life in systemic sclerosis. *Psychology, Health and Medicine*, 14, 553-566.
- [85] Lebowitz, K. R., Suh, S., Diaz, P. T., & Emery, C.F. (2011). Effects of humor and laughter on psychological functioning, quality of life, health status, and pulmonary functioning among patients with chronic obstructive pulmonary disease: A preliminary investigation. *Heart & Lung: The Journal of Acute and Critical Care*, 40, 310-319.